



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/713,255

11/17/2003

Takahiko Fujiwara

02886.0086

1739

22852 7590 10/26/2007
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP
901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER

HANDAL, KAITI V

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

10/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/713,255		FUJIWARA, TAKAHIKO	
	Examiner		Art Unit	
	Kaity Handal		1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the oxidizing catalyst layer on the HC adsorbent layer" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanesaka et al. (US 5,804,148) in view of Nishizawa (US 5,108,716) in view of Yamamoto et al. (US 6,047,544).

With respect to claim 1, Kanesaka teaches an apparatus for purifying exhaust gases (fig. 1), comprising: an adsorption-purifying catalyst including: an HC adsorbent (3), and an oxidizing catalyst (4) (col. 3, lines 64-65); a three-way catalyst (5) disposed on an upstream side of the flow of exhaust gases with respect to the HC adsorption-purifying catalyst (3) (as illustrated).

Kanesaka fails to show wherein said oxidizing catalyst layer is on the HC adsorbent layer. Yamamoto teaches an exhaust gas purification catalyst comprised of an oxidizing catalyst layer (4) positioned on a hydrocarbon adsorption layer (3) formed on a monolith substrate (2) as illustrated in figure 2. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Yamamoto's catalyst layered structure as an alternative to Kanesaka's catalyst separate-unit structure as such is known in the art.

Kanesaka fails to show wherein said three-way catalyst has a noble metal loaded higher on a high loading portion disposed on an upstream part of the three-way

catalyst than on an ordinary portion of the three-way catalyst. Nishizawa teaches a metal carrier for a catalytic converter (fig. 1) wherein a three-way catalyst is comprised of a noble metal loaded higher on a high loading portion disposed on an upstream part of the three-way catalyst/metal than on an ordinary portion of the three-way catalyst in order to promote catalytic activation at low temperatures (abstract) and achieve a large cost reduction (col. 3, lines 2-12).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the three-way catalyst of Kanesaka comprise a noble metal loaded higher on a high loading portion disposed on an upstream part of the three-way catalyst than on an ordinary portion of the three-way catalyst, as taught by Nishizawa, in order to in order to promote catalytic activation at low temperatures and achieve a large cost reduction.

Regarding claims 2-4, Kanesaka et al. in view of Nishizawa et al. discloses all of the claims limitations as set forth above, but the references do not explicitly disclose wherein a loading amount the high loading portion of the three-way catalyst/catalyst metal is twice or more of a loading amount of the ordinary portion of the three-way catalyst; and formed within a range of $1/2$ of an overall length of the three-way catalyst ranging from an upstream end of the three-way catalyst, and wherein HC adsorption-purifying catalyst includes the HC adsorbent and the oxidizing catalyst with a proportion of the HC adsorbent with respect to the oxidizing catalyst from 5 : 1 to 2 : 3 by volume. The specific loading amount of the high loading portion of the three-way catalyst, range of length of said metal catalyst, and proportion of the HC

adsorbent with respect to the oxidizing catalyst, are not considered to confer patentability to the claims. As the reactor cost of construction and efficiency of operation are variable(s) that can be modified, among others, by adjusting said loading amount and range, with said construction cost and operating efficiency both increasing as the loading amount and range is increased, the precise loading amount and range would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed loading amount and range, and proportion of the HC adsorbent with respect to the oxidizing catalyst cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the specific loading amount of the high loading portion of the three-way catalyst, range of length of said metal catalyst, and proportion of the HC adsorbent with respect to the oxidizing catalyst to obtain the desired balance between the construction cost and the operation efficiency (*In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*In re Aller*, 105 USPQ 223).

Response to Arguments

Prior Art

Applicant argues that it would not have been obvious to combine the references of Nishizawa and Kanesaka. Examiner respectfully disagrees.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Kanesaka teaches an apparatus for purifying exhaust gases (fig. 1), comprising: an adsorption-purifying catalyst including: an HC adsorbent (3), and an oxidizing catalyst (4) (col. 3, lines 64-65); a three-way catalyst (5) disposed on an upstream side of the flow of exhaust gases with respect to the HC adsorption-purifying catalyst (3) (as illustrated).

Kanesaka fails to show a three-way catalyst wherein a noble metal is loaded higher on a high loading portion disposed on an upstream part of the three-way catalyst than on an ordinary portion of the three-way catalyst. Nishizawa teaches a metal carrier for a catalytic converter (fig. 1) wherein a three-way catalyst comprised of a noble metal loaded higher on a high loading portion disposed on an upstream part of the three-way catalyst/metal than on an ordinary portion of the three-way catalyst in order to promote catalytic activation at low temperatures (abstract) and achieve a large cost reduction (col. 3, lines 2-12). Therefore, it would have been obvious to one having ordinary skill in

Art Unit: 1797

the art at the time the invention was made to include a three-way catalyst wherein a noble metal is loaded higher on a high loading portion disposed on an upstream part of the three-way catalyst than on an ordinary portion of the three-way catalyst in Kanesaka's apparatus, as taught by Nishizawa, in order to in order to promote catalytic activation at low temperatures and achieve a large cost reduction.

Applicant argues that there is no description about an HC adsorption purification catalyst. Thus, one of ordinary skill in the art would not have been motivated to combine the references to arrive at the presently claimed invention. Examiner respectfully disagrees. Kanesaka teaches the combination of an HC adsorbent/three-way-catalyst and Nishizawa teaches the missing feature of having a three-way catalyst comprised of a noble metal loaded higher on a high loading portion disposed on an upstream part of the three-way catalyst/metal than on an ordinary portion of the three-way catalyst.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 1797

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaity Handal whose telephone number is (571) 272-8520. The examiner can normally be reached on M-F 8-5.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1797

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KH 

10/22/2007


Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700